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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,843	02/27/2004	Hector M. Ribas	2298	8462

28005 7590 09/07/2007

SPRINT
6391 SPRINT PARKWAY
KSOPHT0101-Z2100
OVERLAND PARK, KS 66251-2100

EXAMINER	
ALIA, CURTIS A	

ART UNIT	PAPER NUMBER
2609	

MAIL DATE	DELIVERY MODE
09/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,843	RIBAS ET AL.	
	Examiner	Art Unit	
	Curtis Alia	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,9-13,15,17 and 18* is/are rejected.

7)☒ Claim(s) *6,8,14 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figure 2 is objected to because it contains subject matter that is unrelated to the present invention.

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuniga (US 2003/0218974) and the background of Stilwell (US 6,137,773, hereinafter referred to as Stilwell) in view of Love et al. (US 2004/0219920).

For claims 1 and 4, Zuniga discloses a method comprising determining a reverse noise floor (see paragraph 26, lines 1-4), obtaining reverse noise measurements (see paragraph 13, lines 1-5), and determining reverse noise rise measurements by comparing the reverse noise measurements to the reverse noise rise (see paragraph 12 and equation 1).

For claim 1, Zuniga teaches all of the limitations with the exception that the method further comprises obtaining a plurality of forward code domain measurements and determining a maximum number of users such that the probability of exceeding a predetermined reverse noise rise is blow a threshold. Stilwell, from the same field of endeavor, teaches the provision of measuring code domain channels for values such as code domain power, timing, and phase (see column 1, lines 18-27). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to measure metrics such as power and timing in the forward link to determine capacity on that transmission medium. This can be implemented into the system of Zuniga by incorporating the CDMA base station testing methods as specified in the TIA IS-97 standards. The motivation for using the forward code domain measurement technique is that the waveform quality affects the characteristics of the code domain channels, which can in turn affect the system capacity.

For claim 1, Zuniga and Stilwell teach all of the limitations with the exception that the method further comprises determining a maximum number of users such that the probability of

exceeding a predetermined reverse noise rise is below a threshold. Love, from the same field of endeavor, teaches the provision of determining the probability of an outage, or the probability of the noise rise exceeding a threshold at the base station (see paragraph 98). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to determine parameters at a base station based on a probability. This can be accomplished by adding functionality to the base station that would be capable of calculating a probability from the measurements acquired. The motivation for such a combination is that the BS must predict how much noise will be accumulated as more and more users are connected.

For claim 3, Zuniga, Stilwell, and Love teach all of the limitations with the exception of the step of determining the reverse noise floor being performed by obtaining reverse noise measurements during a period of inactivity. However, this step is inherent by definition: the reverse noise floor is the amount of reverse link noise when no communication is present.

For claim 5, Zuniga, Stilwell, and Love teach all of the limitations with the exception that the forward code domain measurements and the reverse noise measurements are obtained substantially simultaneously. However, it is well known in the art to obtain different measurements at the same time. Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to obtain the measurements simultaneously. This can be done by having multiple measuring devices on the base station and enough buffer space to hold the collected measurement data. The motivation for collecting the different data metrics at the same time is that they will be used together in determining parameters that depend on those measurements.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zuniga and Stilwell in view of Love as applied to claims 1 and 3-5 above, and further in view of Meyer et al. (US 6,236,866).

For claim 2, Zuniga, Stilwell, and Love teach all of the limitations with the exception that the forward code domain measurements comprise the number of active forward links. Meyer, from the same field of endeavor, teaches the provision of determining the number of users actively using the network (see column 4, lines 44-47). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to determine the number of active connections to the users. Determining the number of active connections can be implemented into the system by monitoring the system load or having a specific function built into the base station. The motivation for acquiring the number of active connections to the base station is to know how much interference each connected user is contributing to.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zuniga and Stilwell in view of Love as applied to claims 1 and 3-5 above, and further in view of Lee et al. (US 7,158,812).

For claim 7, Zuniga, Stilwell, and Love teach all of the limitations with the exception that the plurality of forward code domain measurements is obtained from base station transceiver. Lee, from the same field of endeavor, teaches the provision of measuring the transmission of output power of the base station in a forward link at the base station (see abstract). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to measure forward link measurements from the base station. Measuring at the base station can be implemented by extracting transmission output power of the pilot channel. The motivation

for such a combination is that power measurements must be made on a single channel in a system that has multiple channels on one frequency band (CDMA).

8. Claims 9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuniga (US 2003/0218974) and the background of Stilwell (US 6,137,773, hereinafter referred to as Stilwell) in view of Love et al. (US 2004/0219920).

For claims 9 and 12, Zuniga discloses a method comprising determining a reverse noise floor (see paragraph 26, lines 1-4), obtaining reverse noise measurements (see paragraph 13, lines 1-5), and determining reverse noise rise measurements by comparing the reverse noise measurements to the reverse noise rise (see paragraph 12 and equation 1).

For claim 9, Zuniga teaches all of the limitations with the exception that the method further comprises modifying at least one system parameter, obtaining a plurality of forward code domain measurements and determining a maximum number of users such that the probability of exceeding a predetermined reverse noise rise is blow a threshold. However, it is well known in the art to adjust system parameters in a base station.

For claim 9, Zuniga teaches all of the limitations with the exception that the method further comprises obtaining a plurality of forward code domain measurements and determining a maximum number of users such that the probability of exceeding a predetermined reverse noise rise is blow a threshold. Stilwell, from the same field of endeavor, teaches the provision of measuring code domain channels for values such as code domain power, timing, and phase (see column 1, lines 18-27). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to measure metrics such as power and timing in the forward link to determine capacity on that transmission medium. This can be implemented into the system of

Zuniga by incorporating the CDMA base station testing methods as specified in the TIA IS-97 standards. The motivation for using the forward code domain measurement technique is that the waveform quality affects the characteristics of the code domain channels, which can in turn affect the system capacity.

For claim 9, Zuniga and Stilwell teach all of the limitations with the exception that the method further comprises determining a maximum number of users such that the probability of exceeding a predetermined reverse noise rise is below a threshold. Love, from the same field of endeavor, teaches the provision of determining the probability of an outage, or the probability of the noise rise exceeding a threshold at the base station (see paragraph 98). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to determine parameters at a base station based on a probability. This can be accomplished by adding functionality to the base station that would be capable of calculating a probability from the measurements acquired. The motivation for such a combination is that the BS must predict how much noise will be accumulated as more and more users are connected.

For claim 11, Zuniga, Stilwell, and Love teach all of the limitations with the exception of the step of determining the reverse noise floor being performed by obtaining reverse noise measurements during a period of inactivity. However, this step is inherent by definition: the reverse noise floor is the amount of reverse link noise when no communication is present.

For claim 13, Zuniga, Stilwell, and Love teach all of the limitations with the exception that the forward code domain measurements and the reverse noise measurements are obtained substantially simultaneously. However, it is well known in the art to obtain different measurements at the same time. Thus, it would have been obvious to a person having ordinary

skill in the art at the time of the invention to obtain the measurements simultaneously. This can be done by having multiple measuring devices on the base station and enough buffer space to hold the collected measurement data. The motivation for collecting the different data metrics at the same time is that they will be used together in determining parameters that depend on those measurements.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zuniga and Stilwell in view of Love as applied to claims 9 and 11-13 above, and further in view of Lee et al. (US 7,158,812).

For claim 15, Zuniga, Stilwell, and Love teach all of the limitations with the exception that the plurality of forward code domain measurements is obtained from base station transceiver. Lee, from the same field of endeavor, teaches the provision of measuring the transmission of output power of the base station in a forward link at the base station (see abstract). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to measure forward link measurements from the base station. Measuring at the base station can be implemented by extracting transmission output power of the pilot channel. The motivation for such a combination is that power measurements must be made on a single channel in a system that has multiple channels on one frequency band (CDMA).

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zuniga and Stilwell in view of Love as applied to claims 9 and 11-13 above, and further in view of the background of Meyer et al. (US 6,236,866).

For claim 17, Zuniga, Stilwell, and Love teach all of the limitations with the exception that at least one system parameter is a power control parameter. Meyer, from the same field of

endeavor, teaches the provision of utilizing system parameters such as power control, transmission rate, and soft handoff algorithm in the base station (see column 2, lines 9-15). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a system parameter designating power control values in a base station. The power control parameter can be used by the base station to help determine number of user or coverage area of the base station. The motivation for using a power control parameter in the base station is that it can help alleviate the near-far problem, among others.

11. Claim18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zuniga and Stilwell in view of Love as applied to claim 9 and 11-13 above, and further in view of the background of Ghandi et al. (US 2003/0022630).

For claim 18, Zuniga, Stilwell, and Love teach all of the limitations with the exception that at least one system parameter is a mobile access probe. Ghandi, from the same field of endeavor teaches the provision of including an access probe parameter into determining the output power at the mobile station. Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to use an access probe system parameter in a base station. This parameter can be implemented into the system by receiving the output power of the mobile station during the access probe period when the mobile station attempts to access the base station. The motivation for using this system parameter is that the access probe transmission contributes to interference and noise, which must be accounted for.

Allowable Subject Matter

12. Claims 6, 8, 14, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hosein (2004/0252669), Lohtia et al. (US 2003/0218997), Black (US 6,397,070), Ghandi et al. (2005/0026624).

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis Alia whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Thursday 8:00AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CAA

Tom

DANG T. TON
SUPERVISORY PATENT EXAMINER